

## ProSTUD® 400PDS125-18G90

**Product Description** 4" PROSTUD®20 (18MIL) G90  
**Coating** G90

### Physical Properties

Design Thickness (in)	0.019
Minimum Thickness (in)	0.01805
Web Width (in)	4
Flange Width (in)	1.25
Stiffening Lip (in)	0.34
Yield Strength (ksi)	70



### Gross Section Properties

Cross Sectional Area (A)	0.133
Moment of Inertia (Ix)	0.321
Radius of Gyration (Rx)	1.551
Gross Moment of Inertia (Iy)	0.027
Gross Radium of Gyration (Ry)	0.453

### Effective Section Properties

Effective Area (Ae)	0.046
Moment of Inertia for deflection (Ixe)	0.286
Section Modulus (Sxe)	0.084
Allowable Bending moment (Ma)	3532
Allowable shear force in web (U)(Vag)	157
Allowable shear force in web (P) (Vanet)	157

### Torsional Properties

St. Venant torsion constant (J x 1000)	0.01605
Warping constant (Cw)	0.089
Distance from shear center to neutral axis (Xo)	-0.859
Radii of gyration (Ro)	1.83
Torsional flexural constant (Beta)	0.78
Unbraced Length (Lu)	24.2

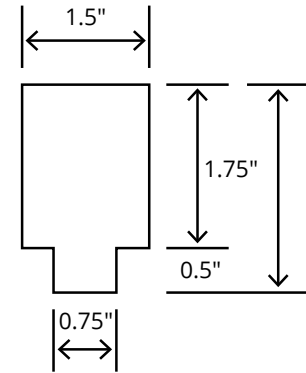
### ASTM & Code Standards

• AISI S100-07 & S220-11 • Meets or exceeds ASTM C645 & C754 • ASTM E119, E72, & E90 • ATI CCRR-0207 • LA RR 26019

### Mill Steel Framing LEED Green Credits

- MR Credit 2** • ConstructionWaste Management – Mill Steel Framing steel framing is 100% recyclable
- MR Credit 4** • Recycled Content – Mill Steel Framing products contain no less than 25.5% post-consumer and 6.8% pre-consumer recycled content
- MR Credit 5** • Regional Materials – Mill Steel Framing has manufacturing facilities in Indiana, Alabama & Texas
- V4 MR Credits** • Building Product Disclosure and Optimization EPD (1 point)
- Materials Ingredients (1 point) – Construction and Demolition Waste Management (1 point)

### Punch Out



### Notes

1. Calculated properties are based on AISI S100-12, North American Specification for Design of Cold-Formed Steel Structural Members and AISI S220-15, North American Standard for Cold-Formed Steel Framing - NonStructural Members.
2. Effective Properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
3. Tabulated gross properties including torsional properties are based on full-unreduced cross section of the studs, away from punchouts.
4. For deflection calculations, use the effective moment of inertia.
5. Allowable moment includes cold-work of forming.
6. Allowable moment is taken as the lowest value based on load or distortional buckling. Distortional buckling strength is based on a k-phi = 0.

